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References: 1. David, N. A.; Porter, G. A., and Gray, R. H.: Monographs on Therapy 5:60 (Feb.) 1960. 2. Ford, R. V.: Current Therap. Res. 2:92 (Mar.) 1960.

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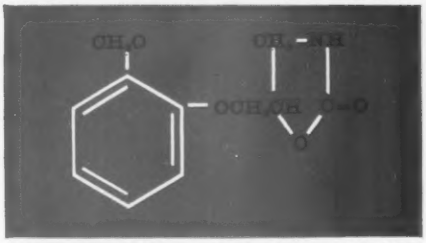

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1. Turvey, S. E. C.: Personal communication, 10/20/59.

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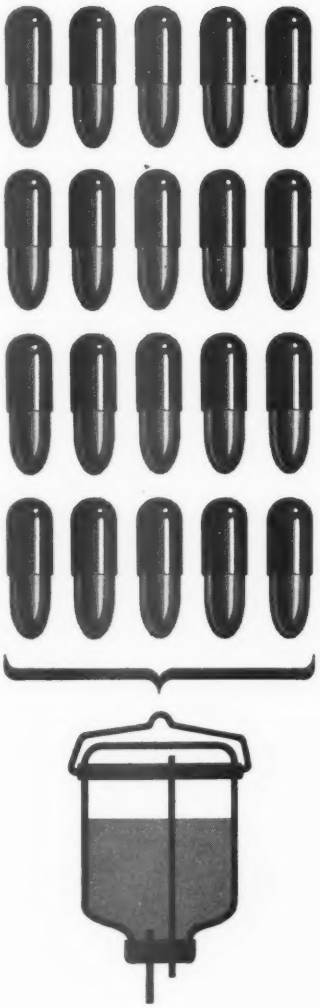

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References: 1. Schreiner, G. E.: A.M.A. Arch. Int. M. 102:32, 1958. 2. Freedman, L. R., and Beeson, P. B.: Yale J. Biol. & Med. 30:406, 1958. 3. Rocha, H., et al.: Yale J. Biol. & Med. 30:341, 1958.

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A PRELIMINARY REPORT OF OUT-PATIENT TREATMENT OF PULMONARY TUBERCULOSIS

F. J. PHILLIPS, M.D.
ANCHORAGE

The idea of out-patient treatment of pulmonary tuberculosis among the Natives of Alaska had its first inception on a train in 1950. A number of the medical health officials returning on the train from the Territorial Medical Association meeting at Mt. McKinley Park that year discussed a tentative plan for out-patient treatment. Only patients who had been successfully started on pneumoperitoneum and dihydro-streptomycin at a sanatorium were to be included. When these patients could safely return to a locale where there was a doctor nearby it was agreed the doctor should continue the treatment locally. This would then make another bed available for a patient that urgently needed sanatorium medical care. Like many good ideas this one was not put into action very widely.

DR. PHILLIPS

It had been my personal feeling for many years that sanatoriums were spending far too much money per patient in the hospitalization program for what they were giving in medical service to the patient. Also, I had been impressed with the results of the work of Peck in "The Modalities of Bed Rest" done in the middle forties (1). Consequently, even though nothing was done officially at that time, soon several of us proceeded to carry out the plan in our own bailiwicks (2). The young doctors who later came to Tanana and Bethel were most enthusiastic about the idea. Soon new 'Wonder Drugs' were to become available. Isonicotinic acid hydrazide and para-amino-salicylic acid for oral treatment of tuberculosis were announced.

The advent of these antimicrobials opened a new vista to all of us. Accordingly many more patients were cared for on an out-patient basis. One strong objector predicted that natives would not faithfully take the medication when not under strict hospital regimen. Another objection mentioned was that the Public Health Nurses in the outlying communities would be practicing medicine in competition with doctors. Actually, experience proved both of the objections and the many other deterrents to be unfounded and negligible. However, the first serious attempts at out-patient treatment were made in the Seward and Anchorage areas. Later programs were started at Tanana and Bethel. This was all done quietly.

Many pressures on both the Alaska Department of Health and the Alaska Native Service resulted in money being allocated by Congress to hire a team of experts from the Pittsburg Graduate School of Public Health to come to Alaska to study the tuberculosis problems as well as the respiratory problems in general among the natives. Dr. Thomas Parran, one time Surgeon General of the USPHS, and then Dean of the Pittsburg Graduate School of Public Health headed the team. Experienced phthisiologists, hospital administrators, pediatricians and biometricians were included in the group. Dr. James Perkins of the National Tuberculosis Association came up. This study was done during the greater part of two Alaskan summers. Much good has come from that study.

This group of experts submitted their report to Congress. Out of this action came these things. Additional funds were allocated to the TB program to contract for beds in Washington State and elsewhere to take care of the overload of cases of pulmonary tuberculosis. In all, more than 300 beds were contracted outside of Alaska. An organization was set up to administer the "wonder drugs" in the villages of Alaska. This marked the beginning of the Tuberculosis Ambulatory Chemotherapy program (ACP). The initial objective of the program was to bring treatment to the patients who were waiting for beds in Sanatoria. Previously many got worse and some died while waiting for a sanatorium bed. Plans were designed for certain patients to be discharged from the sanatoria with the agreement that their treatment should be kept up at home no matter where they were located geographically. This entire program was formulated in 1954. Treatment of native patients in their villages was begun. They welcomed the idea with enthusiasm. The field nurses found little or no resistance to taking the medicines.

Meantime the doctor at Tanana had made a semi-private arrangement with Wein Alaska Airlines to fly portable X-ray units into the villages for chest X-ray surveys. This worked well because it could be done at almost any season of the year. It worked well because the natives could be found at home instead of out fishing in a distant camp or off to a cannery. Previously case-finding had been mostly limited to marine units that coursed the coast line and some of the rivers. Occasionally, railroad car units had served the railbelt area. Overland bus units had been sent out sporadically but they were not effective since roads were not plentiful in Alaska tundra and mountain areas. To study only briefly airborne surveys was to become convinced of the superiority of the method over some of the methods used previously. Dr. J. A. Carswell in 1937 made a survey of tuberculosis in Alaska by the use of mobile chest X-ray units transported by air. The impetus given by the Parran Team as well as the experience of the bolder of us impelled the ACP Program to get under way and quickly.

There were many unknowns as regards the acceptance and success of such a program in a culturally different racial group of people. It was agreed that the responsibility for organizing and conducting the Ambulatory Chemotherapy Program should initially be that of the U. S. Public Health Services because of their wider experience. This was done through the Arctic Health Research Center (AHRC). Funds for the program came originally through the Alaska Native Health Services, Division of Indian Affairs. Later this became the U. S. Public Health Services, Division of Indian Health. The Alaska Department of Health (ADH), Tuberculosis Division, and the Alaska Native Health Service (ANHS) worked closely with AHRC in developing and carrying out the program.

ACP was under the overall direction of a Medical Officer from AHRC. To make recommendations for chemotherapy was the function of a Chemotherapy Board comprised of medical specialists representing the three respective health agencies. Action of the board was funnelled to the MOC of the ANHS field hospital who prescribed therapy. Initiation and supervision of therapy was the responsibility of a team of itinerant public health nurses who visited each participating village at tri-monthly intervals. The nurse was assisted in each village by a Chemotherapy Aide. The latter was trained by the nurse to see that each patient was maintained with constant supply of medication. The 'Chemo' nurse was the direct personal contact with the patient. It was therefore her function to instruct good health practices and bolster each patient's enthusiasm so as to get full patient cooperation in the program.

SCOPE OF THE PROGRAM

ACP was initiated in January 1955. The area selected for the program activities included villages located north and west of the railbelt in Interior Alaska. Tuberculosis prevalence was more critical in these villages than elsewhere at the time of the initiation of the program. During ensuing months villages were added to the program until mid-1956, when 72 villages containing 13,684 persons were participating in ACP. This was approximately 40 per cent of the Native Population of Alaska. By that time it had been demonstrated that the program was practicable and good cooperation could readily be obtained from all participants. In July 1956, The Alaska Department of Health assumed responsibility for ACP in 37 villages in the northernmost sector. This report does not relate the experience in those villages. The Arctic Health Research Center retained the responsibility for the program in an area which is known as the Bethel Triangle. This

BASIC TABLE: AMBULATORY CHEMOTHERAPY LOAD BY QUARTER, BETHEL TRIANGLE, 1955-59

		At end of quarter				During the quarter							
						Chemo started			Chemo stopped				
				Pers. on chemo									
Year	Quarter	Part. villages	Pop.(1)	No.	%	Post. Hosp.(2)	Other(3)	Total persons	Compl.(4	Hosp.(5)	Died	Trans.(6	Total persons
1955	J-M	5	1131	197	17.4	10	205	215	9	9	....	....	18
	A-J	8	2430	370	15.2	15	164	179	2	4	....	....	6
	J-S	12	2957	546	18.4	16	184	200	6	18	....	....	24
	O-D	20	4585	725	15.8	23	197	220	2	39	....	....	41
1956	J-M	27	6281	928	14.8	23	226	249	15	31	....	....	46
	A-J	31	6833	1084	15.9	52	172	224	21	42	2	3	68
	J-S	32	6956	1081	15.6	49	77	126	74	52	3	....	129
	O-D	32	6956	982	14.1	40	50	90	120	64	1	4	189
1957	J-M	32	6956	943	13.6	64	74	138	118	57	2	....	177
	A-J	31	5993	815	13.6	82	68	150	135	38	1	104	278
	J-S	31	5993	823	13.8	68	18	86	32	41	3	2	78
	O-D	31	5993	734	12.3	49	18	67	137	17	....	2	156
1958	J-M	31	5993	663	11.1	49	26	75	117	24	1	4	146
	A-J	21	4473	420	9.4	59	16	75	154	17	5	142	318
	J-S	23	5202	366	7.0	40	25	65	95	9	2	13	119
	O-D	23	5202	354	6.8	45	26	71	59	7	2	15	83
1959	J-M	24	5428	361	6.7	34	20	54	41	0	2	4	47
	A-J	24	5428	342	6.3	36	12	48	53	9	....	5	67
	J-S	24	5428	293	5.4	20	17	37	70	8	3	4	85
	O-D	27	5978	308	5.2	24	9	33	14	2	1	1	18

(1) Population of specified villages as of January 1, 1959.

(2) Persons discharged from hospital and placed on chemotherapy included in this group.

(3) Includes predominantly persons recommended for Ambulatory Chemotherapy by Priority Board or Hospital MOC as a result of usual case finding procedures.

(4) Includes persons in whom progress was sufficiently favorable that Ambulatory Chemotherapy could be discontinued based on judgment of Priority Board and hospital MOC.

(5) Includes persons who were hospitalized at which time Ambulatory Chemotherapy was discontinued.

(6) Includes persons moving out of village or transfer of responsibility to ADH.

includes villages in southwest Alaska bounded by an imaginary line drawn from Unalakleet to McGrath to Platinum. Included in this area are 35 villages containing 7,304 (72%) of the total 10,147 persons living in this area in mid-1956.

PROGRAM TRENDS

Table I shows the changing picture of chemotherapy in the Bethel Triangle from January 1955 to January 1960. It shows by quarter the number of villages then participating; the population in these villages; the number of persons on chemotherapy at the end of each quarter; the number of persons starting chemotherapy each quarter and the number discontinuing chemotherapy each quarter. New villages were added through July 1956, at which time there were 32 participating villages comprising 6,956 persons. Nearly 18 per cent of the total population in these villages were on chemotherapy at that time. During the subsequent three years, the proportion of the total population on chemotherapy has steadily decreased until at present only 6 per cent of the persons are on chemotherapy. From late 1956 on the number of persons starting chemotherapy was smaller than the number of persons stopping chemotherapy, thus accounting for the decrease in patient load. Reasons for starting chemotherapy, likewise shifted.

Thus during early months a higher proportion of persons were started as a result of intensified case-finding measures, whereas, in recent months patients starting chemotherapy were largely those returning from the hospital. During early months a larger porportion of persons stopped chemotherapy because of hospitalization than during later months. On the other hand, a higher proportion of persons stopped chemotherapy because of favorable changes in treatment success in the more recent months of the program. This would be expected since the cases were found earlier in their disease.

DISCUSSION

This program brought about a number of interesting changes in the TB picture in Alaska. In 1950 patients arriving at the Sanatoria had

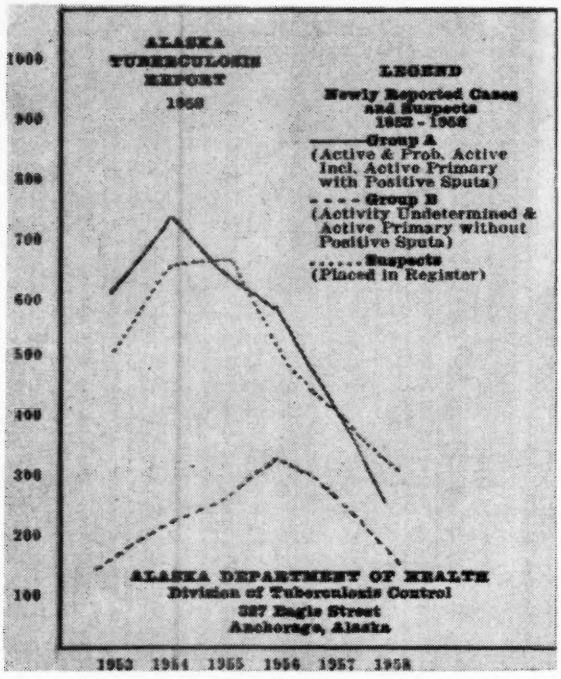

Figure 1

far-advanced disease in the proportions of about 85 per cent. Their morale was low. Their physical stamina was frequently in the most decrepit stage. They were actually the neglected derelicts of Alaskan humanity. Their treatment program was necessarily arduous and fraught with unpredictable results. By 1957 only 15 per cent of the admissions were far advanced. Their morale was good. The treatment program became much less of a challenge to the dedicated doctor or nurse. Another factor often completely overlooked was that the morale of the public health nurse in the field was tremendously improved. Beds within the Public Health Hospital and the Sanatoria were no longer at a premium. The load of patients in Washington State began to dwindle. The Seward Sanatorium closed its doors July 1, 1958. Why? Because there were no native patients that could not be cared for in the ANHS hospitals. The Anchorage Alaska Native Health Service Hospital was originally planned for 300 beds for tuberculosis. Now only 100 are allocated for tuberculosis and seldom are they all filled. The amelioration of human suffering and socio-economic distress cannot be measured, but they are ponderable entities. The cost of operating the program likewise diminished markedly. Patients who would have occupied an expensive hospital bed for months or even years were now getting treatment for less than a dollar a day total cost and getting well. Many of the early found cases responded so well to the medication that they ceased to be candidates for tuberculosis hospital beds. Many fewer homes were broken. The Welfare services and costs were lessened. Furthermore, no case has come to light wherein any patient was worsened by the treatment. Figure 1 illustrates the overall trend from 1952 to 1958 very graphically.

SUMMARY

It is recognized that there are many variables that have not been well-studied that may influence the final results statistically. This error can only be slight. The fact is indisputable that the tuberculosis problem as measured by the proportion of persons on chemotherapy has decreased dramatically not only in the Bethel Triangle but in all Alaska. Although ACP was originally intended to be only a study program there is little doubt but that it played an objective role along with time-worn practices in reducing the tuberculosis problem. According to available statistics the death rate expressed in number per hundred thousand for all races in Alaska at the end of 1958 was 10.9. It is well to recall that the death rate in the Bethel Triangle was 847 per hundred thousand in 1951 whereas the death rate for natives of Alaska in 1958 was only 40.5 per hundred thousand. The tuberculosis case register changed from 5,344 in 1951 to 3,255 in 1958. In 1955 the ANHS put 57 cents out of every dollar spent for health into the TB program. In 1959 only 27 cents out of every dollar was so spent. Outpatient treatment has paid off well in Alaska.

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*This work was made possible by the following ardent workers. Their enthusiasm can only be measured in human service. Dr. Jean Persons, ANHS, Dr. Beryl F. Michaelson, ANHS, Dr. Bertha L. Moore, ANHS, Dr. Robert M. Phillips, USPHS, Merilys Porter, R.N. PHN, and Catherine Haley, R.N. PHN, both of USPHS. And the unselfish travail of the group of un-named field nurses who 'slogged' through ice, snow and tundra to get the PILLS to the villages cannot be measured.

THE GENUS AMANITA IN ALASKA

VIRGINIA L. WELLS and PHYLLIS KEMPTON
ANCHORAGE

This genus of mushrooms contains some of the most poisonous mushrooms known in the world and while not many species are known to occur in Alaska one of them, Amanita muscaria, grows in such abundance during July, August and September that all Alaska doctors should be aware of it as a potential source of mushroom poisoning.

The genus Amanita is a genus of gilled mushrooms characterized by: 1. white spore deposit; 2. gills not attached to the stem; 3. the presence of a ring on the stem; and 4. the presence of a cup (volva) or a series of rings at the base of the stem.

DESCRIPTION OF THE SPECIES

Amanita Muscaria
(Fig. 1)

Cap: 3-8 inches broad when mature. Nearly ball-shaped at first and **completely enclosed in a cottony white to yellowish covering.** At this stage it may resemble a puffball. The cap soon expands to show the bright red or orange-red surface coloring with a scattering of white cottony warts. At maturity the cap is nearly flat and the color fades to dull reddish or yellowish. The surface between the warts is sticky when moist and polished or glossy when dry. The cap is rather easily removed from the stem.

Flesh: White to yellowish; fairly thin; odor and taste are not distinctive.

Gills: White to yellowish; close together; **not attached to the stem. Covered at first by a white membranous veil.**

Stem: 3-12 inches long. Enlarged or bulbous at the base which is usually underground, then tapering upward to the cap. White or yellowish. Surface dry, fairly smooth **except just above the bulb where there is a series of cottony rings** (remains of the original cottony covering). The **ring near the top of the stem** is white or yellowish, membranous, flaccid. (This ring is the remains of the veil which at first covers the gills.) Interior of the stem is white to yellowish; stuffed with cottony-like tissue or hollow.

PHYLLIS KEMPTON, left
VIRGINIA WELLS, right

Spore in deposit: pure white.

Habit, habitat and distribution: This mushroom grows singly or in groups in mixed woods or under conifer trees over most of Alaska. It is sometimes found in lawns or gardens where trees have been growing. It is very common during July, August and September.

Discussion: During very wet or dry weather the characteristic "warts" on the cap may be lacking, and the ring near the top of the stem may be missing, but the white free gills, the floccose rings at the enlarged base of the stem, and the white spore deposit will serve to identify it.

AMANITA MUSCARIA—yellow form.

Identical with the red form of **Amanita muscaria** except that the cap is light yellow becoming

Figure 1

greyish or brownish with age. It is not common but may be found under conifers during the same season as the red form.

AMANITA PORPHYRIA

Typically smaller than the above described species. Cap lavender—or brownish-grey without the "warts." Gills white; stem grey. There is a definite whitish cup or volva at the base of the stem. Uncommon under conifer trees during July and August.

AMANITA PHALLOIDES and related species

No species of the **Amanita phalloides** group have been found in Alaska by the authors but they strongly suspect that at least one species occurs in the Matanuska Valley and northward. Because of this possibility, the authors are including a discussion of the symptoms and treatment of poisonings by this deadly group of mushrooms.

SYMPTOMS AND TREATMENT OF AMANITA POISONING

Since knowledge of the chemistry of the poisons in some mushrooms is still incomplete, it is presently more convenient to note the different poisons on the basis of the nature of the effects they produce in humans. The four basic types of mushroom toxins generally recognized are: 1. those which affect the nervous system; 2. protoplasmic poisons; 3. gastro-intestinal irritants; and 4. disulfiram-like constituents. One or more of these may be present in all of the known poisonous mushrooms, and a complicating factor is that a single mushroom may contain two poisons which produce opposite effects. This is especially true in cases of poisoning where **Amanita muscaria** is the offending mushroom.

1. Symptoms and Treatment of Poisoning by AMANITA MUSCARIA and Related Species

The two compounds which occur in this mushroom and related species are muscarine and pilzatropine.

Muscarine is present only in small amounts, but it may produce symptoms within five to ten minutes. These are characterized by a greatly increased salival secretion, sweat and tears, followed by severe vomiting and diarrhea. There is an irregular slow pulse rate, decreasing blood pressure, asthmatic breathing, the pupils of the eyes are generally constricted, but there is no delirium or hallucinations. In severe cases, death sometimes results from paralysis of the heart or respiratory failure.

Treatment consists of lavage of the patient's stomach unless repeated vomiting and diarrhea make this unnecessary, and injections of atropine which is the specific antidote for muscarine poisoning. After vomiting has stopped, the patient can take, by mouth, large amounts of a dilute saline and glucose solution.

The pilzatropine type of poisoning resulting from eating **Amanita muscaria** and related species, is probably more common, and every doctor should learn to recognize the symptoms and be familiar with the treatment.

Symptoms will appear fifteen to thirty minutes after eating the mushroom. Vomiting occurs only infrequently. The patient passes into a condition resembling alcoholic intoxication, characterized by excitement, confusion, muscular

spasms, delirium, and disturbance of vision. Following this excited state, there is most usually a deep sleep, and the patient later awakens with little or no memory of it.

But these atropine-like symptoms may be accompanied by those of muscarine poisoning which have been mentioned previously. After the toxic material has been removed from the gastrointestinal tract, the doctor will have to note the particular symptoms and treat accordingly.

Administration of atropine is best avoided in all cases characterized by excitement. If the symptoms of muscarine poisoning predominate, it may be used with caution. Liquids such as coffee or tea (no alcohol) may be given as the excitement stage passes and depression sets in. Nikethamide may be employed as a stimulant.

2. Symptoms and Treatment of Poisoning by AMANITA PHALLOIDES and Related Species

The **Amanita phalloides** group of mushrooms produce an extremely poisonous mixture of toxins known as protoplasmic poisons. These cause nearly 90% of the deaths due to mushroom poisoning. Even very small amounts of these mushrooms may prove fatal. The danger is increased by the fact that they are very attractive fruiting bodies with no apparent unpleasant taste, and no distressing symptoms of poisoning become evident until as many as eight to twenty hours have passed. By this time the poisons have been absorbed into the blood stream and treatments are often of no avail.

Ordinarily ten to twenty hours will pass after ingestion of the mushroom, then violent vomiting and diarrhea begin, with the patient suffering severe pain. Death may come soon, or the symptoms may seem to subside for a while, then recur even more intensely. There is progressive injury of the liver, kidney, heart and skeletal muscles, with death resulting in at least 50% of the cases after a period of from two to five days.

A patient suspected of having eaten mushrooms of the **Amanita phalloides** group should be hospitalized immediately, and removal of the toxic material from the gastrointestinal tract should be started by administering emetics and cathartics, gastric lavage, and enemas. The patient should be put on a liquid diet of high carbohydrate and salt content, and given intravenous injections of dextrose solution four or five times daily. These are the most accepted methods of treatment now in use in this country.

Mushroom Poisoning by Other Alaskan Species

There are several other common, wild Alaskan mushrooms which may cause serious poisoning. **Gyromitra esculenta** which is abundant in May and June may contain protoplasmic poisons. Disulfarim-like constituents are present in the local "Inky caps" **(Coprinus atramentarius),** but unless alcoholic beverages are consumed several days before or after eating this mushroom, no poisoning will be incurred.

MUSHROOM POISONING: General Discussion

Except in the case of **Amanita phalloides** and related species, mushroom poisoning is rarely fatal. But any effects from eating mushrooms are properly termed poisoning, whether they take the form of drunkenness, stupor, hallucinations, or stomach cramps, diarrhea and vomiting.

Mushrooms are most poisonous when eaten raw, and probably more poisonous to children than to adults. Some deaths have been noted among children or adult patients who were already weakened by another disease.

Gastrointestinal irritation frequently occurs from eating mushrooms but generally the attack is quick, though often severe, and recovery can be expected in a day or so. Often these milder forms of poisoning are overlooked or masked as flu or stomach upset, simply because the patient doesn't connect his symptoms with the fact that he has partaken of a mushroom dish.

It has been noted that people coming from foreign countries where mushrooms have long formed a staple part of the diet, are responsible for most of the cases of serious poisoning. The cause, here, is that mushrooms are not the same the world over. A wild mushroom found in Alaska may have the same general appearance as one growing in a European or Asian country, but the local species could vary enough to be considered poisonous.

Mushrooms are considered to have little food value and, in general, are rather indigestible. Many cases of poisoning must be put down to sheer gluttony. Persons with histories of allergies, however, should be advised to exercise great care in eating even the known edible species.

—Continued on Page 20

HYPERTONIC DEHYDRATION: Diarrhea With A Difference

JOHN C. TOWER, M.D.
ANCHORAGE

The Alaskan M.D. is notoriously short on elaborate hospital facilities, supervised internes, esoteric I.V. fluids and flame photometers. He has as ready to hand, however, as his stateside confrere, some personal routine to use for infants and children down with vomiting and diarrhea. He is accustomed to seeing nine or ten afflicted babies recovering in several days using widely differing therapies; which may include starvation feedings, with Jello water, Lytren(R1) or O.E.S.*, boiled skim milk, Kaopectate, Belladona derivatives, paregoric, and a host of antibiotics. Perforce he sees a few each year where telephone advice did not suffice and his examination discloses a sick child, dehydrated and often acidotic or alkalotic as best he may judge from clinical signs. These he must usually hospitalize and treat with intravenous fluids and a rest from usual alimentation for several days.

DR. TOWER

Among these sicker children are a few, perhaps 1 in 20, who are sicker yet—who have hypertonic dehydration. Often the usual sign-posts of dehydration—poor skin turgor, soft eyeballs, depressed fontanelle, and very dry tongue and lips—the child appears lethargic, thirsty despite vomiting and irritable to stimulation beyond what his signs of dehydration would suggest. Fever, convulsions, lethargy and nuchal rigidity often suggest meningitis. Comparison with a recent weighing often discloses a severe weight loss of 10 to 15 percent of body weight. The history may show feedings with milk or O.E.S.* during the diarrhea, fever, parental neglect or prior brain injury.

Regretfully, this child with hypertonic body fluids is more likely to die, suffer permanent brain injury, or convulse, before and during treatment than the more obviously dehydrated or acidotic baby with isotonic or hypotonic dehydration. Diagnosis may come from alert suspicion and the securing of a blood sodium greater than 150 meq/L or a blood chloride plus CO_2 whose total is greater than 150 meq/L. (1)

The problem in management stems from the observation that hypertonically dehydrated children must be rather slowly hydrated with solutions weak in electrolyte by vein in an area where most facilities and much personal experience dictates the convenient use of a "clysis" of normal saline in 5% glucose. These isotonic solutions contain no extra water free from sodium to provide for sweat, urine, insensible water loss, and most dangerous, for the dehydrated cells which have lost their water to the too-salty extracellular fluid volume.

A CASE REPORT

A six-months-old white male infant was admitted to Providence Hospital on January 4, 1961, for treatment of his vomiting and dehydration of three days' duration. Born at term to a 20-year-old primipara, he weighed 5 lbs. 5 oz. His neonatal course was normal and he gained well on breast

(R1) Mead Johnson
(R2) Eaton Laboratories
(R3) Don Hall Laboratories

feeding. Prior to this illness he had never been sick and at his well-baby checkup he had been found to be developing well. He had received 3 DPT shots and 2 polio injections. Apparently he received sterilized evaporated milk formula and had no exposures to enteric pathogens. His most recent weight was 15 pounds.

Vomiting occurred three nights before admission and was accompanied by listlessness and several green stools. A phone recommendation of Kaopectate and boiled skim milk was started. He vomited his bottle feeding six times the next day and passed several slightly bloody and loose stools. By telephone Lytren(R1), 8 measures to 1 quart of water, was commenced. The day before admission he was examined and a red liquid was prescribed as well as Lytren(R1). Despite obvious thirst he failed to retain Lytren(R1) and had more loose stools. He vomited three times the day of admission. Some fever had been noted at the outset. The case was referred when re-examination suggested marked dehydration and meningismus.

The infant boy weighed 13 lbs. 8 oz. on admission. He appeared well-formed but seriously sick and hollow-eyed. His color was normal. The anterior fontanelle was 2 cm. across, flat and soft and not depressed. Skin turgor was fair to poor and lips and tongue were dry. Eyeballs were not soft though the child appeared hollow-eyed. The cry was weak and respirations were shallow. Chest and heart examination revealed only tachycardia of 160. The belly was flat, soft and showed reduced bowel sounds. No meningismus was found. The child cried weakly and irritably when moved. Initial examination thus suggested severe dehydration with alkalosis consequent to gastroenteritis, cause unknown.

Initial blood work revealed a hematocrit of 40%, hemoglobin of 13.2 gm.%. White blood count was 15,600 with 5 stabs, 56 polys, 31 lymphs, 8 monos, and adequate platelets. Serum sodium was 163 meq/L, chloride 150 meq/L and CO_2 5 meq/L. Urinalysis after several hours was cloudy yellow with a pH of 5.5, specific gravity of 1.020, 2 plus albumin, negative sugar, occasional white cell and 4-plus bacteria.

A scalp intravenous infusion was started as soon as the infant's head could be shaved and 125 cc. normal saline was started to expand the circulating fluid volume and was followed by a 500 cc. bottle composed of a 1 part normal saline to 3 parts 5% glucose in water, a chloride-rich solution designed to repair the suspected metabolic alkalosis from vomiting. With the initiation of I.V. fluid therapy the infant went to sleep but continued his shallow respirations. Three hours after admission the laboratory evidence of hypernatremia prompted a quick reappraisal of the I.V. regimen and an immediate substitute of the more hypotonic hydrating solutions recommended by Harrison and Finberg (2), consisting of 3 parts 1/6 Molar sodium lactate to 21 parts 5% glucose and water (15 meq/ of Na^+ per liter). A rate of 200 Mg. per Kg. or body weight was programmed for the first 24 hours. To prevent seizures 30 mg. of intramuscular sodium Luminal was given every 12 hours.

Within 6 hours the infant became more easily roused and alert and in 12 hours able to retain dilute Lytren-Jello water (3 measures Lytren(R1) to 1 qt. Jello water, 2 oz. every 3 hours). Repeat chemistries revealed Na^+ of 152 meq/L Cl^- of 124 meq/L, CO_2 of 72 meq/L.

After 24 hours of I.V. therapy the infant appeared more alert and better hydrated although still sleepy. I.V. fluids had been changed after the first 1000 cc. to 1/6 Molar sodium lactate to 2 parts Ringer lactate to 21 parts 5% glucose and water with 10 meq/L KCl solution per liter. The patient had 2 large loose stools during the first and second 24 hours.

On the third hospital day Lytren(R1) 2 oz. was alternated with dilute Probana(R1) (4 measures to 12 oz. water). Furoxone(R2) 60 cc. and tincture of paregoric ¾ tsp. every 6 hours was given to bulk the stools, and was discontinued on the fourth hospital day. The infant now appeared alert, happy and hungry. The I.V. was discontinued. Urinalysis was normal. Stool culture grew only Proteus.

B.B. was discharged on full strength Probana(R1) on the fifth hospital day weighing 14 lbs. 10 oz. He passed several formed stools before discharge. Serum sodium on the fifth hospital day was 145 meq/L, chloride 112.5 meq/L and CO_2 20 meq/L. Re-examination eight days after admission showed a lively boy weighing 14 lbs. 15 oz. Probana(R1) was discontinued and he prospered on the usual strained solids and homogenized milk.

DISCUSSION

Recent pediatric literature abounds in good references concerning hypernatremia (1-4) in hypertonic dehydration. These articles do not portend that diagnosis is reliable on any ground save those of the laboratory determination of sodium, although it may be well suspected where vomiting, diarrhea, fever or CNS defect is encountered in small children whose feedings during diarrhea have been isotonic (undiluted milk). Franz and Segar (5) have recently documented an increase in the frequency of hypernatremic diarrheal dehydration from 4% in 1954 to 21% in 1958 associated with the increased use of Lytren (R1) with I.V. or subcutaneous fluids administered before hospital admission and/or with the prior presence of brain damage. These authors found in a control study of mildly diarrheal six-month old babies no significant electrolyte shift in the series given Lytren (R1) compared with their alternates given an oral hypoelectrolyte solution. They suspected that accurate dilution of the powdered Lytren (R1) had not been achieved.

Pickering, Fisher and West (4) suggest that the ideal oral electrolyte solution to use in the therapy of mild diarrhea should contain 20-25 meq/L Na^+, 20-25 meq/L K^+ and 15-20 meq/L Cl^-. Lytren (R1) contains 50 meq/L Na^+, 20 meq/L K^+ and 30 meq/L Cl^-. One teaspoon of salt to 1 quart water represents 75-125 meq/L. They recommend the use of Lectrad Complete (R3), 10 cc. to 1000 cc. of 7-Up or ginger ale, a solution which provides 25 meq/L of Na^+, 22 meq/L of K^+ and 19 Meq/L of Cl^-.

Colle, Ayoub and Raile (6) reported an epidemic of diarrhea in Minneapolis in the early spring of 1958 where 17 to 32 children presented with hypernatremia. There were 4 deaths in the hypernatremic group and one child was discharged with spasticity. Of the 17 infants with hypernatremia all had received either whole milk without supplemental water, whole milk with Lytren (R1) or an oral electrolyte solution. They note that whereas adults may achieve a urinary concentration of solutes of 1400 mOsmls/L, infants appear to achieve concentration of but half this and diarrheal infants even less. It has been calculated that whole cow's milk without supplemental water provides only enough water free of solute for renal and extrarenal losses of water at an environmental temperature of 23° C. but not at 34° C. The diarrheal infant suffers the additional hypotonic fluid loss in stool, in insensible water from the skin with fever, and from the lungs with overbreathing with metabolic acidosis. With ensuing dehydration, kidney function falls and the body becomes less able to conserve water and excrete salt.

The potential severity of hypertonic (hypernatremic) dehydration is further attested by Lawrence Finberg (7) of Johns Hopkins, who documented 7 infants with hypernatremia whose workup revealed elevated spinal fluid protein, subdural hemorrhages and hygromas and residual brain damage, which in 6 of the 7 was severe.

He did not find subdural effusions in hypotonic dehydration but was able to produce them experimentally in kittens given hypertonic salt solutions intraperitoneally.

SUMMARY

A case of hypertonic (hypernatremic) dehydration in an infant with diarrhea has been described. There was recovery without neurologic sequelae. Mention is made of the difficulty in seizing the diagnosis on clinical grounds alone. The effect of Lytren (R1), whole milk or skim milk without extra water given during the vomiting and diarrheal state in the pathogenesis is outlined. Best treatment appears to be rather gradual hydration over a 3- to 4-day period with a hypotonic salt solution containing 15 to 20 meq/L Na^+ and given in an amount to equal 200 cc. per Kg. per day, with oral hypoelectrolyte and K^+ solutions administered the second day.

The physician must be alert to the occurence of seizures before and during treatment, the more than occasional occurence of CNS hemorrhage and subdural effusions, and the possibility of residual brain damage.

The author would encourage the prevention of this metabolic consequent to diarrhea by the following measures: 1. Use of half strength Lytren (R1), 4 measures to the quart of 7-Up, water or Jello water. 2. Dilution by half with water of whole milk or skim milk feedings given during diarrhea. 3. Use of hypotonic electrolyte solution by vein, not clysis, in all severe diarrhea with dehydration. 4. That all Alaska hospitals have

available the easily inserted pre-manufactured scalp vein needles as well as a reasonable choice of I.V. fluids to include 5% glucose in water, 1/6 Molar sodium lactate, Ringer's lactate solution, as well as the prevalent normal saline or normal saline and 5% glucose.

Dr. Finberg's comments on the paper by Franz and Segar (5) bears repeating, as a conclusion: "Two of the associations, prior parenteral fluids and administration of Lytren(R1) are iatrogenic, hence of great practical significance. The authors imply and the reviewer heartily concurs, that the study does not interdict the use of these therapies but rather their misuse. The therapeutic administration of parenteral (or enteral) water and electrolyte to sick infants requires a knowledge of physiological principles and the willingness to perform accurately some arithmetical computations. The phylistinism that the calculations imply unwarranted precision fails to appreciate that the errors made by the non-calculators frequently fall several fold beyond the physiologically tolerable range."

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*Oral electrolyte salution, 1 tsp. salt to 1 qt. water plus 2 tablespoons Karo.

Editorial Page . . .

"CHANGING TIMES IN CHICAGO"

In late March a convention of the American Medical Association was held in Chicago. By itself this was not surprising, headquarters being in Chicago and AMA meetings frequent.

This meeting, however, was unusual. The delegates often were new, three requested from each state. There is no hint of scientific lore. The speakers—of varied backgrounds, alliances and opinions—represented agriculture, business, hospitals, insurance, the United States Congress, and the executive staff of the American Medical Association. Social aspects were minimized. There were no wives' programs, sight-seeing trips, or ubiquitous delegation cocktail parties. In short it was a business meeting, political and in deadly earnest.

The subject nominally: socialized medicine and how to fight it. The subject really: the place of the American physician in tomorrow's scene, his acceptance of **organized medicine,** his actual interest in preserving for himself and his sons a place of worth, honor and dignity in society.

In point of fact the delegates assembled and individually appeared less interested in the legislative aspects of social security medical care than in the strong possibility that the individual practitioner of the art was by disinterest, inactivity, ill-founded criticism and occasionally by incompetence and plain greed, making compulsory medical insurance inevitable.

The delegates were outspoken and soul-searching. Guest speakers were often critical. Political techniques, the position and integrity of the AMA administration, the impact of AMA publicity, local and national, the Social Security system, all were discussed, all rehashed and dissected to the bone.

From this the delegates learned a great deal. It is highly probable that the AMA administration similarly absorbed much.

The AMA would seem to be running scared. Representing American Medicine, the dignity, esteem and reputation of the organization are a direct reflection of those it represents. As a democratic organization it can be only as strong as its individual components. Apathy and disinterest in local society affairs, malicious or misinformed criticism, protest resignations in lieu of constructive local effort—these are the factors that weaken the organization, that lead to centralization and oligarchy. If the AMA is running scared, if its reputation is on the block, its potency at risk, these are the factors responsible. Official malfeasance cannot be wholly blamed.

The best method of medical care for the indigent may remain debatable. It is manifestly clear, however, that they will get care. In what form, what quality, and how administered depends to a large extent on the local doctor in his own community, on his ability to look up, become informed and express himself. The cards are on the table; he can play if he will.

Winthrop Fish, M.D., President,
Anchorage Medical Society,
Guest Editor.

President's Page

Late in February I was privileged to attend the symposium in Anchorage and can truthfully say that it was both educational and enjoyable, and my congratulations go to all those who were responsible for this event.

Since that time I have been able to visit with the Ketchikan group of doctors and chat with them about many of the affairs of the society. It was my first opportunity to visit there this year and I felt the trip very worthwhile.

Later that same week I was in Juneau and I came away firmly convinced that a great many people, and that includes physicians and their families, are going to be forced to take more interest and exert more action in the political groups of Alaska. I must say that I was not particularly surprised at conditions as they exist, because our reporters to the public press have been quite exacting in their reporting. Bickering, arguing, name calling, and the like are not confined to the legislative halls, but occur in any public place you happen to find yourself. In all fairness, I must say that among many of the young (in point of service) legislators I found a hard core that are sympathetic to the needs and desires of the practicing physicians of Alaska, but we must see that they get help in the future.

As you are undoubtedly aware, we in the medical profession did not fare well in this session. Valdez is still a going concern but not to the extent proposed by the governor. Funds were cut somewhat, and even an amendment to cut the money to $12,000 to pay for a caretaker while the State decided what to do with the place, was introduced. Needless to say, it did not pass but shows thought in some areas. There seems to be some relief in sight on the salary scale for professional people in the Division of Public Health. We have, or at least I have, learned a great deal this year and will have recommendations to present at the annual meeting about our future course.

Speaking of the annual session, remember the dates, May 24 to 27 inclusive, in Sitka, Alaska. I truthfully believe we have an outstanding program lined up. More particulars are given elsewhere in this edition. The order is in for good weather, there are suitable tides for clam digging and abalone, and we are prepared to serve you a varied menu of business, education, instruction and fun. Plan now to attend.

This probably will be the last news letter I will prepare for you as President of your Association. It has been an enjoyable year, it has been a busy one, but above all it has been a pleasure to serve you the best I know how. I shall attempt at a later date to better express myself, but for the present this will have to suffice. By my associations with all of you I know that Alaska medicine does not have to take a back seat in progress, it is of the best.

Benjamin E. McBrayer, M.D., President,
Alaska State Medical Association.

May 24-27, 1961

Program

ALASKA STATE MEDICAL ASSOCIATION

BARANOF GRADE SCHOOL, SITKA, ALASKA

Benjamin E. McBrayer, M.D., President
P. O. Box 370, Mt. Edgecumbe, Alaska

Wednesday, May 24, 1961

8:30 A.M.—Registration

9:30 - 12 Noon—Opening Business Session

Afternoon

Lee Stevenson, M.D., Henry Ford Hospital, Detroit, Mich.
"Threatened Abortion—It's Cause and Treatment"

Alfred M. Popma, M.D., F.A.C.R., Boise, Idaho
"Complications and Hazards of Radiation Therapy"

Robert Fraser, M.D., University of Alberta, Edmonton, Alberta, Canada
"The Value of Heart Sounds in Clinical Diagnosis"

Clement Finch, M.D., University of Washington, Seattle, Washington
"The Diagnosis of Anemias"

David L. Sparling, M.D., Tacoma, Washington
"Pediatric Management of Urinary Tract Infections in Childhood"

Evening

Tour of Sitka Pulp Mill

No-Host Dinner, Kiksadi Club

Thursday, May 25, 1961

Morning

James Burnell, M.D., University of Washington, Seattle, Washington
"Practical Management of Renal Failure"

Clement Finch, M. D., University of Washington, Seattle, Washington
"Clinical Importance of Blood Volumes"

Alfred M. Popma, M.D., F.A.C.R., Boise, Idaho
"Medical Education in the Western States"

Raymond M. McKeown, M.D., Coos Bay, Oregon
Title to be announced

Afternoon

Frederic H. Bentley, M.D., Consultive Surgeon, Portland, Oregon
"How to Use Convalescence for Quicker Recovery"

Paul Rhoads, M.D., Editor, Archives of Internal Medicine, Chicago
"Management of Bacterial Endocarditis"

Lee Stevenson, M.D., Detroit, Michigan
"The Detection and Treatment of Early Gynecologic Carcinoma"

Ian Thompson, M.D., University of Missouri, Columbia, Missouri
"The Management of the Hypertrophied Prostate"

Jas. A. Wilson, M.D., Ketchikan, Alaska
"Tumors of the Small Bowel"

Evening

Banquet—Alaska Heart Association
Robert Fraser, M. D., Edmonton, Speaker

Friday, May 26, 1961

Morning

Business Session

Noon

Luncheon—Sitka Chamber of Commerce, Hosts

Afternoon

Paul Rhoads, M. D., Chicago
"A Short Review of Newer Antibiotics"

Robert Fraser, M.D., Edmonton
"The Evaluation of Patients with Mitral Insufficiency and the Indications for Surgery"

James Burnell, M. D., Seattle
"The Determination of Sodium and Water Needs in Seriously Ill Patients"

Ian Thompson, M.D., Columbia, Missouri
"The Diagnosis and Management of Urinary Incontinence"

Frederic H. Bentley, M.D., Portland, Oregon
"The Historical Basis and Present Evaluation of the National Health Service in Britain"

Evening

Annual Banquet

Speaker—Raymond M. McKeown, M.D., Coos Bay, Oregon
Secy.-Treasurer Board of Trustees, American Medical Association

Saturday, May 27, 1961

Final Business Session
There will be breaks morning and afternoon to "Visit the Exhibits"

Approved for Credit, Category I, American Academy of General Practice

Report From

Division of Public Health
Alaska Department of Health and Welfare

EDWIN O. WICKS, M.D., Acting Director

ANCHORAGE and JUNEAU

The new Alaska budget to provide health services for fiscal year 1962 made available approximately the same services which were given during the present year. There is some feeling that program funds are being unnecessarily reduced by the addition of such items as FICA, rental of space, cost of communications, insurance, etc.

The poliomyelitis season is rapidly approaching and although Alaska experience does not show as much of a seasonal variation as in the other 49 States, October has been the big month, with September and August following close behind. The table on this page shows cases reported to the Division by month of onset for the past 10 years.

POLIOMYELITIS CASES

Reported to Department of Health and Welfare

By Month of Onset—1950-1960

	1950	51	52	53	54	55	56	57	58	59	60	Ttl.
January	....	....	....	....	....	33	....	....	....	....	....	....	33
February	..	....	....	....	10	4	....	1	1	....	....	....	16
March	.....	....	....	....	....	8	5	....	2	....	....	....	15
April	.....	....	....	....	4	9	....	2	....	1	....	....	16
May	.....	....	....	....	....	1	1	2	....	....	....	2	6
June	.....	2	....	....	5	12	1	1	....	....	1	....	22
July	.....	....	9	1	18	59	4	....	....	....	8	....	99
August	.....	....	1	1	7	97	21	2	....	1	4	....	134
September		13	2	1	4	66	16	3	1	....	3	....	109
October	....	42	....	26	8	63	7	....	....	....	4	....	150
November		7	....	35	7	16	2	....	....	....	6	....	73
December		19	1	20	1	4	....	....	....	....	1	....	46
Total....		83	13	84	64	372	57	11	4	2	27	2	719

Results of the November survey of accidents reported to hospitals showed a total of 916. Home accidents accounted for more than one-third of the total reported. Ascending and descending stairs resulted in a higher percentage of serious accidents and long-term hospitalization than any other activities which were coded for home environment.

Early in 1961 a caribou made a surprise attack on a cat train hauling supplies to one of the DEW Line stations near Barrow, Alaska. The animal was killed and its head was sent to the P.H. Regional Laboratory in Anchorage for examination. The animal was found to be suffering from rabies. Rabies has a wide range of hosts and this caribou adds to a long list of susceptible animals. It brings the total of rabid animals confirmed by laboratory methods to six for 1961. These were in the fox, wolf, dog and caribou.

There has been two recent outbreaks of trichinosis, both caused by inadequately cooked bear meat. There were 18 cases confirmed from Bethel and some half dozen suspects in Goodnews Bay. As it is impossible to eradicate the etiological agent in the animal population, the only alternative has been an attempt at a program of education of the population in how to avoid acquiring the disease. A picture study of the possible life cycle of the Trichinella spiralis in northern regions has been distributed to all Alaska physicians and public health nurses.

There has been an intensified tuberculosis control program and chest film survey, particularly in Southeastern Alaska with increased tuberculosis case finding. This has been made possible by a new portable X-ray machine, weighing approximately 130 pounds, that can be transported in a Cessna 180 plane. There are two of these so-called flyaway teams now functioning in the Southeastern area.

Muktuk Morsels

A COLUMN DEVOTED TO
MEDICAL NEWS IN ALASKA

compiled by

HELEN S. WHALEY, M.D.

WITH THE ASSISTANCE OF

EDWIN O. WICKS, M.D. *Juneau and Anchorage*
LAWRENCE I. DUNLAP, M.D. *Fairbanks*
JACK W. GIBSON, M.D. *Juneau*

GENERAL

The third annual clinic dealing with neuromuscular disorders in childhood will be held in Anchorage on June 9 and 10, 1961, with Dr. Margaret Jones, Associate Professor of Pediatrics at the University of California at Los Angeles as Guest Consultant. The meeting is being jointly sponsored by the Anchorage Alaska Crippled Children's Treatment Center and the National Foundation as a part of their program dealing with birth defects, and with the cooperation of the Anchorage branch of the American Academy of General Practice. It is anticipated by Dr. Charles St. John that A.A.G.P. credit will be offered for this clinic. Children with various diagnostic and therapeutic problems will be presented during the two-day session. In addition, an open meeting for professional personnel, to include physicians, physiotherapists, psychologists and public health nurses, will be held the evening of June 9th, and a further meeting for the lay public, such as parents groups, the evening of June 10th. Details regarding these sessions may be obtained from Dr. Helen Dittman, Clinical Director, Anchorage Crippled Children's Treatment Center, 1020 "I" Street, Anchorage.

Approximately 100 physicians from at least eleven different Alaskan communities attended the day-long Postgraduate Lederle Seminar on February 25th, which was held in conjunction with the Alaska Chapter of the American Academy of General Practice. Guest speakers at the seminars were Dr. Stewart G. Wolf, Professor and Head, Department of Medicine, University of Oklahoma School of Medicine; Dr. David C. Figge, Assistant Professor of Obstetrics and Gynecology, University of Washington School of Medicine, and Dr. Malcolm A. McCannel, University of Minnesota Ophthalmology Department. Anchorage physicians serving as moderators at the seminar were Drs. Robert P. Billings, Milo H. Fritz, Royce H. Morgan and A. Claire Renn.

A course on closed-chest cardiac recuscitation at the University of Washington was attended by Dr. Dwight L. Cramer of Ketchikan, Dr. Lester Margetts of Anchorage, Dr. James Lundquist of Fairbanks, and Dr. Henry Wilde of Juneau in April 1961. Their trip to Seattle was sponsored by the Division of Public Health, Alaska Department of Health and Welfare, special heart education fund.

Elmer T. Feltz, B.A., M.S., was recently appointed virologist at Arctic Health Research Center. He received his M.S. degree in Microbiology from New York University Graduate School. His previous appointments have been as Assistant in Virology, Director's Research Staff, Division of Laboratories and Research, Albany, New York; Instructor, University of Buffalo, School of Pharmacy, and most recently at Roswell Park Memorial Institute, Buffalo, New York, as Cancer Research Scientist, Department of Experimental Biology. Mr. Feltz is a member of the Society of American Bacteriologists, the New York Academy of Sciences and Sigma Xi.

LOCAL NEWS

FAIRBANKS: The new City Health Officer for 1961 is Dr. Taylor Morrow of the Fairbanks Medical and Surgical Clinic.

The Lederle Postgraduate Seminar in Anchorage was attended by Drs. Carl A. Boswell, Lawrence I. Dunlap, Joseph M. Ribar and Henry G. Storrs. A special USPHS conference on venereal disease held in Dallas, Texas, in late February, 1961, was attended by Dr. Donald Tatum. Dr. Paul Haggland attended an orthopedic conference in Denver, and vacationed in Denver and Florida in January. A two weeks vacation in Hawaii was enjoyed by Dr. and Mrs. John Weston.

KODIAK: Dr. J. Bruce Keers is serving as the Health Officer for 1961. Dr. Robert Johnson attended the Rheumatic and Congenital Heart Conference at the University of Michigan, Ann Arbor, in March under the auspices of the Alaska Department of Health, heart control fund.

KETCHIKAN: The new Ketchikan General Hospital, sponsored by the City of Ketchikan will consist of 44 general hospital beds, a diagnostic and treatment center, and a 16-bed long-term care facility. Seven general hospital beds and 7/44 of the diagnostic and treatment center costs are borne by the Indian Health Services under provisions of P.L. 85-151 passed by the 85th Congress. The citizens of Ketchikan at the polls in December approved a bond issue in the amount of 2.3 million dollars for construction of this hospital, which will be constructed under an over-all critique of plans by American Medical Association architects.

Dr. A. N. Wilson, Health Officer for Ketchikan, is on postgraduate leave. His son, Dr. James Wilson has assumed his practice and is acting Public Health Officer.

Dr. Johnnie W. Turner has left the Ketchikan area.

WRANGELL: A postgraduate refresher course in Radiology was recently attended in the Portland area by Dr. Jack W. Clarke.

SKAGWAY: Dr. David Sammann, who has been associated with the White Pass-Yukon Hospital since late summer of 1960, attended a postgraduate conference in Seattle.

HAINES: Dr. Phillip Jones has been appointed Regional Health Officer for the Haines area.

SITKA: Dr. Philip Moore has resumed periodic orthopedic clinics for the Alaska Department of Health and Welfare, and the Alaska Native Health Service. He also held an orthopedic clinic in Juneau on April 26th and 27th.

JUNEAU: The St. Ann's Hospital pageant commemorating American Hospital Week is scheduled for May 17th in Juneau. The pageant will review the history of St. Ann's Hospital—the oldest hospital in Alaska under the American flag. The Sisters at St. Ann's started this first non-government hospital in 1886.

The Alaska Department of Health and Welfare, in cooperation with the Juneau District Medical Society, announced the establishment of a regular orthopedic consulting service with University Hospital, University of Washington Medical School, Seattle. Dr. D. Kay Clauson, Professor of Surgery and Chairman of the Department of Orthopedics, conducted an orthopedic clinic for the Alaska Department of Health and Welfare on April 20th and 21st at the Juneau Health Center. On Saturday, April 22nd, he held private consultations at the Doctor's Clinic and the Juneau Clinic. During his Juneau stay, Dr. Clauson was the guest of Dr. and Mrs. Jack W. Gibson and the Juneau District Medical Society. It was planned that this consultative service will be a continuous program for physicians and their orthopedic patients in the Juneau area.

A three-month institute on child health is being attended by Dr. Jack W. Gibson at the University of London and Great Ormond Street Hospital for Sick Children. He left for London via Anchorage on an SAS jet in late April. Under the auspices of the Alaska Department of Health and Welfare, Dr. James Phillips, an Otolaryngologist of Seattle, Washington, has held ear, nose and throat clinics throughout the Southwestern area. Dr. R. Harrison Leer, who has been in the private practice of ophthalmology in Juneau for a number of years will be leaving to settle in Medford, Oregon. He plans to tour Hawaii en route.

ANCHORAGE: As of March 1, 1961, the Alaska State Mental Hospital at Anchorage was 33% complete. The expected completion date is April 17, 1962. The name of this new hospital is "Anchorage Psychiatric Institute."

The new Providence Hospital on March 17, 1961, was 22½% complete, with an expected opening date of June 21, 1962.

A new two-story professional building occupied by both doctors and dentists was completed in March. It houses the new quarters of the Doctors Clinic, as well as a number of other individual physicians and dentists.

Dr. H. Jaworski of Waco, Texas, spoke at a recent meeting of the Anchorage Medical Society on thyroid carcinoma. Dr. Jaworski was the guest of Dr. George E. Hale while in Anchorage. During June, Dr. Carl E. Chism, a well-known plastic surgeon of Seattle, will be the guest of Dr. Charles F. St. John and will speak at a meeting of the Anchorage Medical Society.

Dr. Milo H. Fritz, under the auspices of the Alaska Ear, Nose and Throat Foundation, held a large and productive T & A Clinic at St. Mary's from March 27 to April 1, 1961. Instead of the original 40 cases, 71 cases were done, 34 with general anesthetic for T & A and the remainder with local anesthetic for tonsillectomy. During three

evenings 18 refractions were also done on students most needing this type of care. Surgery was done in the recreation rooms of the boys' and girls' dormitories. Miss Jean Lapham, a public health nurse, administered preoperative medications. In the operating room Dr. Fritz was assisted by John Spahn, a Guild optician, who ran the ether machine. The circulating nurse was the Reverend Mother Superior, the surgical nurse was a religious Sister, an Eskimo girl who had never been in an operating room before. Another little Sister held the head of the patients having local anesthetics and clucked to them in Eskimo so they would not be too scared. Dr. Joseph Shelton held ophthalmology clinics in Bethel, Aniak and Holy Cross sponsored by the Alaska Department of Health and Welfare, and the Alaska Native Service during March and April. Both physicians flew their own planes to these areas.

Representing the Anchorage Medical Society at the American Medical Association meeting in Chicago on Medical Care Plans for the Aged was President Winthrop Fish. He also visited Columbia Medical Center, Bethesda, the University of California at Los Angeles, and attended a postgraduate course in endocrinology at the University of Virginia.

Drs. James E. O'Malley and Virginia Wright attended postgraduate courses in dermatology and psychiatry in Vienna during the early Spring. The Rheumatic Fever and Congenital Heart clinic at Ann Harbor, Michigan, was attended by Dr. Louise Ormond, under the auspices of the Alaska Heart Association.

Dr. Mahlon Shoff, former Chief of Ear, Nose and Throat Service at the Anchorage U. S. Public Health Service Hospital, entered private practice with Dr. Joseph Shelton in Anchorage in March, 1961. Dr. Robert C. Lewis, formerly of Glenwood Springs, Colorado, has been associated with the Spenard Medical Clinic since February, 1961. Dr. Winton Wilcox will pilot his own plane, following the course of the Alaska Highway and then cutting across western Canada to the mid-West in June.

U. S. A. F. HOSPITAL, ELMENDORF AFB: Colonel Levi M. Browning, Commander, together with Lt. Col. Alfred Hamilton, Lt. Col. Sara C. Hall, Major James J. Coen, Major Snell B. Price and SMSgt. Thomas L. O'Hagen recently went to Seward, Alaska, for the purpose of coordinating Civil Defense activities with local officials and inspection of Safehaven.

Due to the 5040th USAF Hospital being a regional specialty treatment center and evacuation center for all patients in Alaska who are entitled to the benefits of Federal service, Headquarters, United States Air Force, recently redesignated this medical facility as USAF Hospital, Elmendorf AFB, Alaska.

Capt. John C. Roy, Orthopedic Surgeon, spent eight days at Gulkana, Alaska, during the Army exercise "Willow Freeze," conducting frostbite research entitled "Clinical Study of Cold Injury," for Hq. USAF and the School of Aviation Medicine. The research included actual cases from the Army exercise.

Capt. Lloyd M. Higgins, Pathologist, attended the Medical Laboratory Symposium at the USAF Medical Center, Brookes AFB, Texas, from February 7th to 9th. Major Charles F. Krecke, Chief of Radiology, attended the annual meeting of the Radiological Society of North America at Cincinnati, Ohio, December 4-9, 1960.

Dr. John R. Moore, Professor of Orthopedic Surgery at the Temple University School of Medicine and National Consultant to the Surgeon General, USAF, visited the USAF Hospital, Elmendorf AFB, from December 5 - 20, 1960. His visit also included tours of the medical facilities at Kodiak Naval Station, Ladd AFB, and Eielson AFB.

Capt. William B. Barnes, Chief of the Neuropsychiatric Service, is currently teaching Psychology for the University of Alaska Military Branch at Elmendorf AFB.

UNITED STATES ARMY, ALASKA: Colonel Harry D. Offutt, Jr., has been transferred to duty as Surgeon, Yukon Command, Fort Wainwright. Dr. Offutt was previously assigned as Surgeon, USARAL, Ft. Richardson, Alaska.

Dr. Thomas W. Kelly, Chief of Pediatrics, U. S. Army Dispensary, Ft. Richardson, received his certification by the American Board of Pediatrics in December, 1960.

Recently assigned to the U. S. Army Garrison, Fort Greely, is Capt. David C. DeJong. Dr. DeJong comes from Holland, Michigan, and is a graduate of the University of Michigan Medical School, Ann Arbor.

U. S. PUBLIC HEALTH SERVICE: The twice yearly meeting of the medical officers in charge of the six Alaska Native Health Service Hospitals of the U. S. Public Health Service was held March 6 - 9, 1961, in Anchorage. Attending

Medical Officers in Charge included Dr. James A. Hunter of the Anchorage hospital; Dr. Jo B. Smalley, Barrow; Dr. George Wagnon, Bethel; Dr. J. Kenneth Fleshman, Kanakanak; Dr. Charles H. Neilson, Kotzebue, and Dr. Stanley Hadley, Jr., Tanana. Besides the medical and administrative problems of the various institutions, a number of special medical papers were presented. These included talks on research of cold weather injuries by Dr. William J. Mills, Jr., Orthopedic Consultant; on public health problems, including the infectious hepatitis epidemic at Fort Yukon and the discovery of trichinosis among persons eating infected bear meat in the Bethel area by Dr. James E. Maynard, Epidemiologist of the Arctic Health Research Center in Anchorage. X-ray techniques and radiation hazards were discussed by Radiology Consultant, Dr. Duane Drake. Dr. Frederick J. Hillman, Assistant Chief of Surgery at the Anchorage hospital, spoke on "Management of Acute Surgical Problems." Pediatrician, Dr. Dwight T. Tuuri discussed "Treatment of Tuberculosis in Children," and "Treatment of Staphylococcus Pneumonia."

During this coming year it is expected that there will be a full component of physicians for the Alaska Native Health Service for the first time. These will include 4 physicians at Bethel, 3 at Kotzebue, 2 at Tanana, 2 at Kanakanak, 1 at Barrow, 1 to cover the Aleutian chain, 2 to cover St. George and St. Paul Islands, and 1 at Fort Yukon. This will also include 18 physicians at the Anchorage hospital.

The annual meeting of the United States Public Health Service Clinical Society held recently in Lexington, Kentucky, was attended by Drs. Dwight T. Tuuri and Kenneth Fleshman. Dr. Tuuri presented a paper entitled "The Occurrence of Viralizing Adrenal Hyperplasia in the Alaskan Eskimo." His presentation won an award as the outstanding clinical paper presented at the meeting.

Residencies will be entered by Dr. Charles Neilson, present MOC of the Kotzebue Hospital, who starts in radiology at Staten Island Hospital, New York, in July, and Dr. Clayton H. McCracken, stationed at Bethel for the past two years, who will begin a two-year pediatric residency at the University Hospitals of Cleveland, Ohio.

Dr. Richard Chao will attend a meeting of the American College of Chest Surgeons in New York City on June 22-26, 1961.

Dr. Jo B. Smalley of Barrow recently resigned his commission in the Public Health Service. He was replaced by Dr. Ruth Coffin who will remain in Barrow until July, 1961, at which time she plans to go into private practice in Southern California.

After completion of a tour with the Coast Guard on their cutter "Northwind," Dr. William James was re-assigned to the hospital at Tanana. Dr. James Hepler, previously assigned to Tanana and Kanakanak, enjoyed a tour on the Coast Guard weather reconnaissance ship sailing to San Francisco, Hawaii and Tokyo, and is now reassigned to Kanakanak.

THE GENUS AMANITA IN ALASKA

Continued from Page 7—

If a doctor suspects mushroom poisoning in a case, it is important that a specimen of the offending mushroom be obtained for use in identification. Persons collecting a sample should be advised to note the general habitat where the mushrooms were growing, and if they occurred on wood or on the ground. The entire mushroom should be dug out carefully, as it is necessary to have the base of the stem intact in order to ascertain certain of the poisonous species. All known cases of mushroom poisoning and the symptoms present should be reported.

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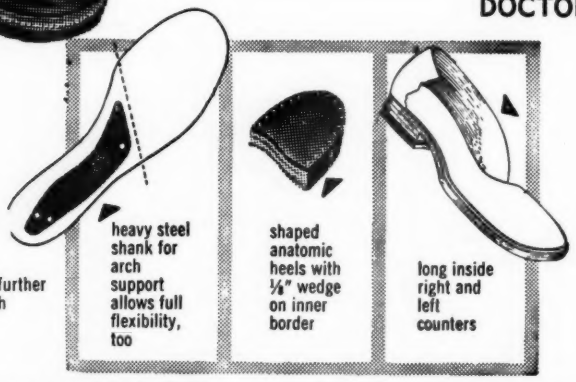
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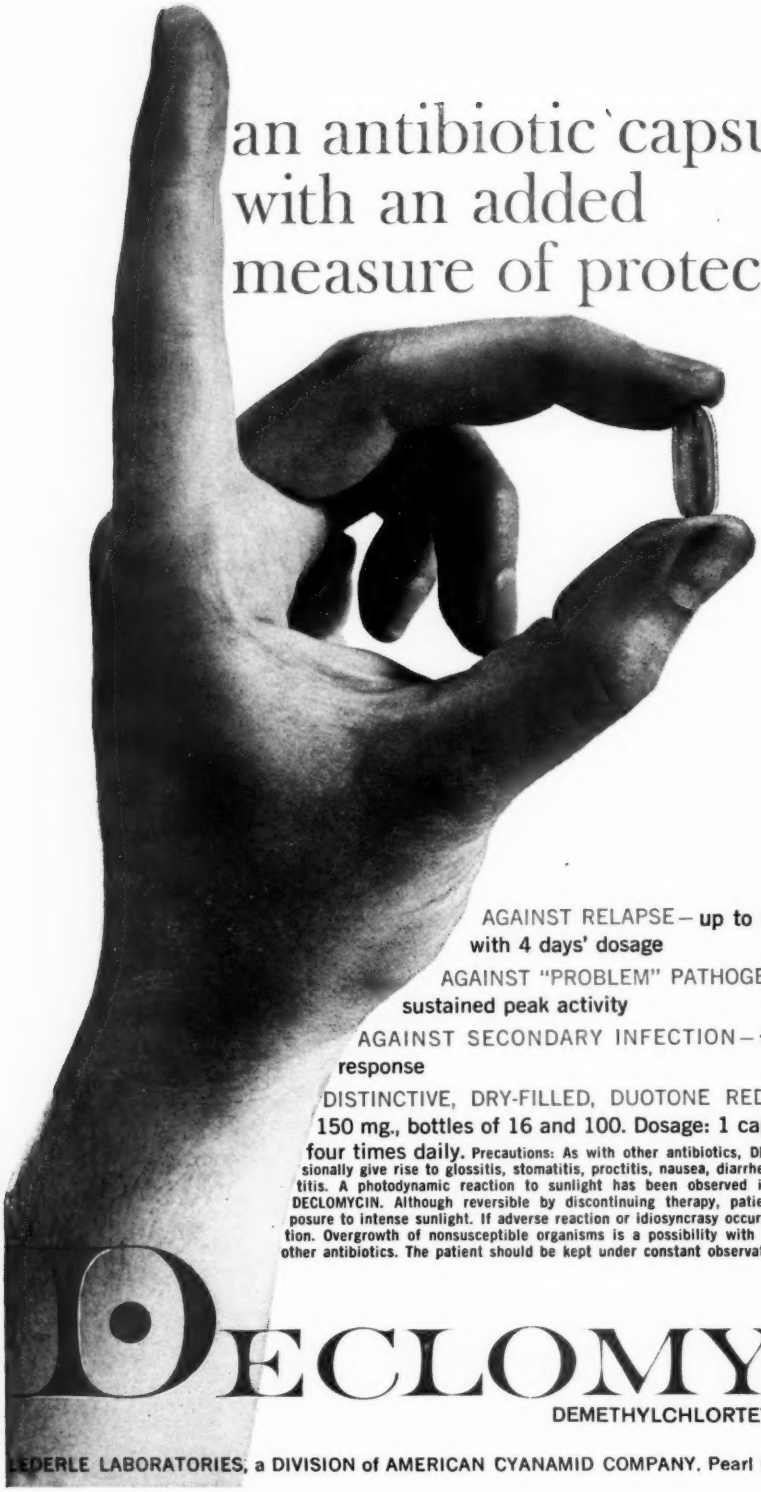

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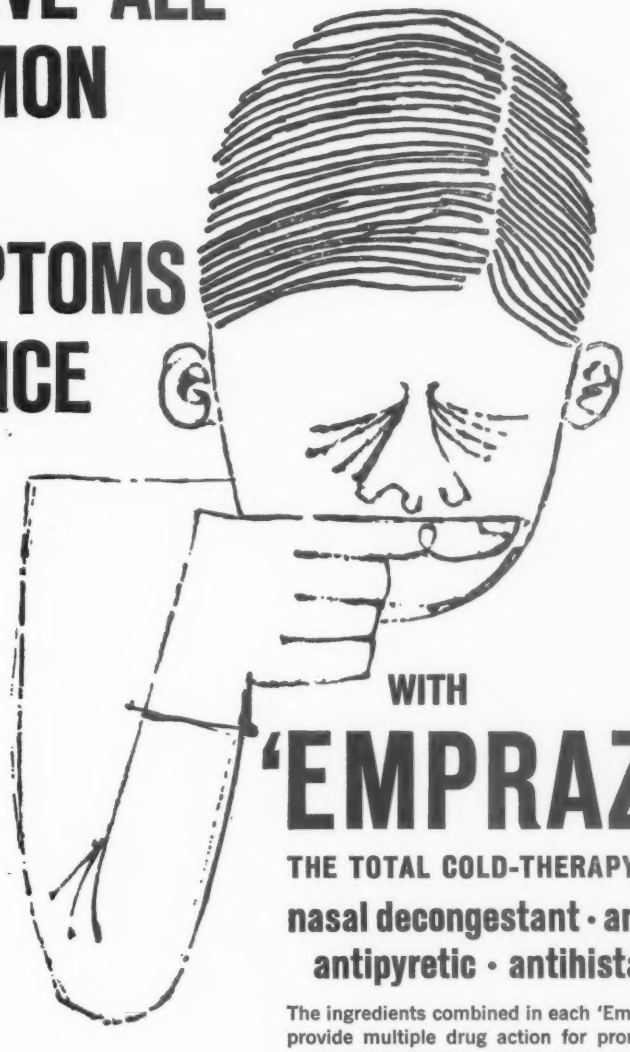

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The name Rexall represents, in Anchorage, as it does across the nation—

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2. **Appoint National Bank of Alaska as executor, to carry it out.**

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REMEMBER, when you name us as executor or trustee you are naming someone who is never ill, absent, or too preoccupied with his own business affairs to pay sufficient attention to yours. We are as close as your nearest phone and will be glad to help arrange conferences with your attorney.

TRUST DEPARTMENT
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BR 6-5401—Extension 41

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STATEWIDE

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DRUG STORE

at 4th and E Street

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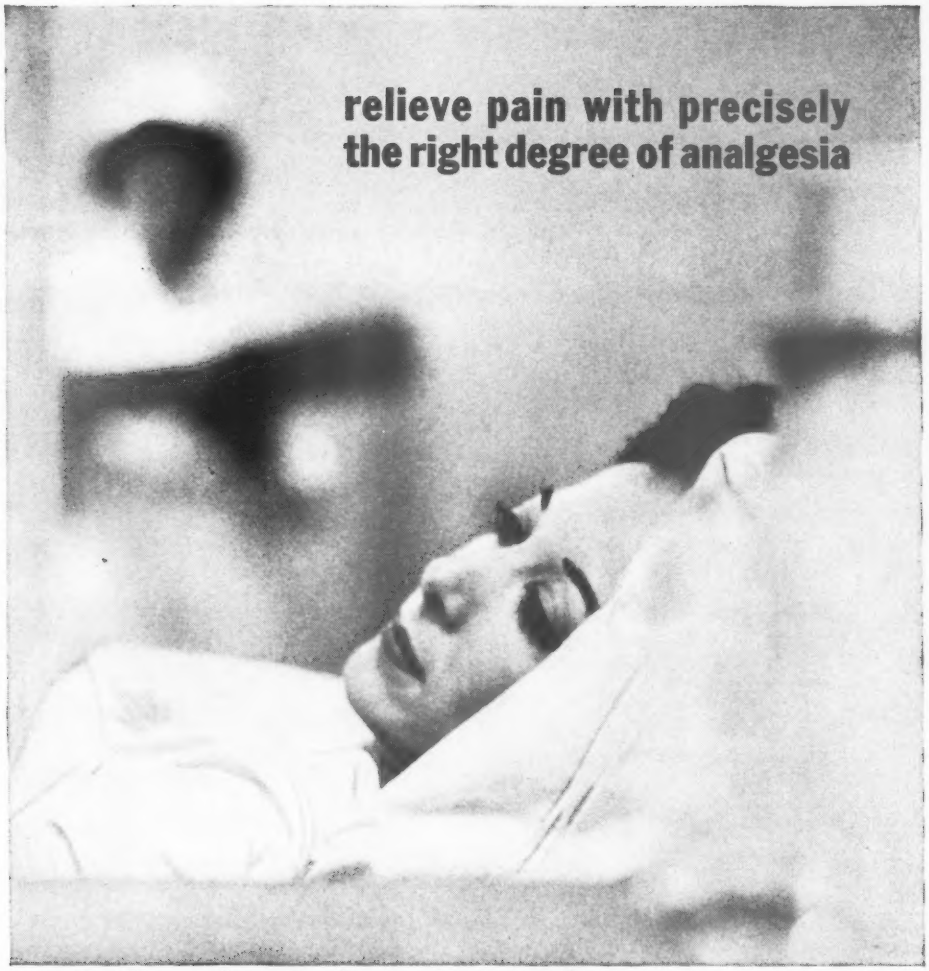

control moderate to severe pain 'Empirin' Compound and 'Empirin' Compound with Codeine Phosphate products provide pinpoint control, anywhere along the pain scale, for all intensities up to that which requires morphine—**without narcotic excess.** For effective analgesic, antipyretic and antitussive action, prescribe the 'Empirin' Compound that suits your purpose best.

'Tabloid' 'EMPIRIN' COMPOUND®

Acetophenetidin	gr. 2½
Acetylsalicylic Acid	gr. 3½
Caffeine	gr. ½

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No. 1 — Codeine Phosphate	gr. ⅛
No. 2 — Codeine Phosphate	gr. ¼
No. 3 — Codeine Phosphate	gr. ½
No. 4 — Codeine Phosphate	gr. 1

*Subject to Federal Narcotic Regulations.

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, New York

ISOLYTE® SOLUTIONS

Composition per Liter

Solution	Dextrose	Milliequivalents										Calories	mOs.
	Gm.	Na^+	K^+	Ca^{++}	Mg^{++}	NH_4^+	Cl^-	$Lact^-$	$Acet^-$	$Cit^{\equiv}$	$HPO_4^{=}$		
Isolyte® M Maintenance with 5% Dextrose For routine maintenance in adults and older children	50	40	35	—	—	—	40	20	—	—	15	180	400
Isolyte P Pediatric Maintenance For routine maintenance in infants and younger children	50	25	20	—	3	—	22	23	—	—	3	180	350
Isolyte E Extracellular Replacement in Water For replacement of intravascular, interstitial, transcellular losses other than gastric	—	140	10	5	3	—	103	—	47	8	—	10	320
Isolyte E Extracellular Replacement with 5% Dextrose For use as above	50	140	10	5	3	—	103	—	47	8	—	180	570
Isolyte G Gastric Replacement with 10% Dextrose For replacement of gastric loss due to suction or vomiting	100	63	17	—	—	70	150	—	—	—	—	340	800
Also 2 New Potassium Solutions: **Kadalex® L** (20 mEq. K^+ and Cl^-/L.) 0.15% Potassium Chloride with 5% Dextrose in Water	50	—	20	—	—	—	20	—	—	—	—	170	290
Kadalex M (40 mEq. K^+ and Cl^-/L.) 0.3% Potassium Chloride with 5% Dextrose in Water	50	—	40	—	—	—	40	—	—	—	—	170	330

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SIMPLIFIES COMPLETE ELECTROLYTE THERAPY

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